

AOI Comments on Appendix E--Framework for Portland Harbor Storm Water Screening Evaluations (August 2005) Regarding Sampling Protocols

Except as noted below, the field sampling protocols bear some similarity to the sampling currently performed by NPDES storm water permittees. However, given the additional information that this Appendix suggests gathering, the amount of sampling time and costs will increase.

A critical factor affecting costs will be the very ambitious analytical testing of storm water system media. Given that the cost of analysis of any one catch basin debris sample or any one storm water sample is likely to be \$3000-\$5000 to determine all analytes on Table 3-1 of the JSCS, it is very important for DEQ to work in a site specific way to narrow: (1) the number of catch basins sampled; (2) the number of separate storm water samples taken; and (3) the site-specific contaminants of interest (COIs). For example, if one site had to analyze 4 different catch basins (assuming this is a one time requirement, which the document does not make clear) and then take quarterly samples from 4 different manholes for the entire list of Table 3-1 analytes, that annual modest program would cost \$60,000-\$100,000 for analytical costs alone, not counting field sampling costs and report writing.

The process talks only very generally about determining site-specific COIs. As such, it leaves open to the discretion of DEQ to include constituents that may not be warranted. This is compounded by the document's reference to non-Portland Harbor issues, such as the 303(d) listings and TMDLs, which seem to have no regulatory nexus with this effort. It is important that COIs be narrowed wherever possible, not expanded.

Section 1, Introduction

This section turns the focus toward industrial sources, and subsections 1.1. and 1.2 appear to narrow it beyond that to sources that are already part of DEQ's remedial investigation program. AOI believes that DEQ should be equally focused on the larger portion of storm water flow into Portland Harbor, made up of municipal discharges and of all other permitted and non-permitted sources.

Given the cost of sampling, as described above, AOI believes that DEQ should focus its efforts as quickly as possible on preliminarily identified risk drivers in Portland Harbor, rather than on the entire list set forth in Table 3-1 or even the narrowed list in subsection 1.2.

In subsection 1.4, it would help to specify what will happen after screening against JSCS SLVs. It is a given that storm water is going to exceed SLVs (e.g. 1200Z benchmarks are currently orders of magnitude higher than SLVs). This, however, does not indicate that the storm water poses any adverse effect or unacceptable risk. AOI believes that DEQ's

goal at this point is to use this information as one part of a weight-of-evidence approach to prioritize storm water sources, as outlined in the JSCS itself. In particular, in the bullets in this section:

- 2) Bullet two should refer to determining if there is an “adverse effect” or “unacceptable risk” as opposed to whether the discharge “potentially impairs” the river’s beneficial uses.
- 3) As discussed above, DEQ should not just be identifying “upland facilities” but also other storm water conveyance systems that require further investigation.

Section 2, Site Information

No comments.

Section 3, Sample Analyses Parameter Selection

It is unclear why this section (e.g. subsections 3.1, 3.1.3 and 3.2) includes consideration of 303(d) listings and development of TMDLs, as they are not part of DEQ’s Portland Harbor responsibilities. AOI believes those references should be removed. The costs of conducting the necessary testing are already overwhelming, without any components that are unrelated to Portland Harbor.

- Sections 3.2 and 3.3. “Laboratory reporting limits should achieve the JSCS SLVs . . .” As discussed in AOI’s letter to Mr. Anderson, this is obviously not possible for many constituents. It is our understanding that test detection limits will be acceptable if they use reasonable commercially available analytical techniques.
- Section 3.2. “it is recommended that upland sites conduct full analyses . . . of each relevant pollutant category rather than to narrow the list to individual constituents.” In some cases it may be clear that there is only a single or two constituents within a particular pollutant category that requires testing (such as a couple of metals that may not be of particular concern for Portland Harbor). The language should be modified to be less strictly inclusive if justified based on weight-of-evidence evaluation and site-specific information. Also, the bulleted list should make clear that the relevant “available Portland Harbor sediment, surface water or tissue data” will be localized data, not harbor wide data.
- Section 3.3. The overall approach is a two-staged process. The first stage includes sampling, analysis, and evaluation of catch basin sediments. The second stage includes sampling, analysis, and evaluation of storm water based in part on the results of the catch basin sediment sampling/analysis, which should result in a reduced list of

COIs for storm water analyses. It would be helpful for clarification purposes if the document stressed more prominently that this is a two-stage approach.

Section 4, Catch Basin Sediment Sampling Design

- Section 4.2 is intended to describe sampling frequency for catch basins but does not do so directly. It should be explicitly stated in this section that a one-time sampling event will be conducted for the purpose of initial screening against JSCS SLVs. AOI believes the presumption should be that this is a one-time sampling event. If there is further sampling (e.g. for purposes of evaluating a BMP), this document should describe either specifically or at least generally that the frequency of additional monitoring (sampling and analysis) will depend on the type of source control measure implemented, if any.

Section 5, Storm Water Sampling Design

- AOI believes this document should explicitly state that analyses of storm water grab samples may not necessarily be the best way of determining whether storm water from a certain source is creating unacceptable risk in the river. A wide variety of tools could be used (e.g. sediment traps, river sediment sampling, water column sampling, fish tissue sampling).
- The second paragraph indicates that the characterization will entail “first flush” grab sampling as well as flow monitoring and composite sampling. It is clear later in this paragraph and in other subsections that only grab sample data will be used for storm water screening evaluations, and composite sampling is not required initially. The first sentence of the second paragraph should be deleted or modified appropriately.
- Section 5.1. DEQ needs to carefully consider the cost of evaluations that it requires a site owner to undertake and their frequency. At potentially \$3000-5000 per sample, just for analysis, the sampling of multiple drainage basins on any periodic basis will quickly become prohibitively expensive (e.g. as calculated above, a sampling program that is modest compared to what is outlined here could easily cost \$60,000-100,000 for just one year).

Section 5.2. Four separate storm events per year seems excessive, in light of the fact that no rationale was given for this number of sampling events. Nor is sampling to assess seasonal variability described. AOI believes that quarterly monitoring is too expensive, without benefit to justify such a requirement. Two events per year

could provide the same information on worst-case conditions and seasonal variability. The first event could be collected, if possible, at the start of or prior to the rainfall season, and the second during the later part of the rainfall season. The timing of events can be adjusted if required by controlling factors such as the results of the first event and need for additional characterization for potential source control (or other factors) of overall project scheduling.

- Several sections indicate sampling events “per year.” What is DEQ’s intent with indicating this? Is yearly monitoring supposed to be implemented at all facilities for an indefinite period (regardless of SLV exceedances)? Will the need for yearly sampling be evaluated only in the event that monitoring of source control measures is required? Language should be modified so that sampling per year is not perceived as a default requirement for all upland sources.

Section 6, Screening Evaluation

- This section appears to suggest that exceedance of an SLV is a basis for requiring source control action. As described in AOI’s letter to Mr. Anderson, AOI believes that to be wrong. AOI agrees, however, with the approach in this section that recognizes storm water source control as an iterative process, and it agrees that efforts should be made as quickly as possible to implement BMPs that can reduce contaminant flow to the river. A step in that iterative process will be performing the kind of weight-of-evidence approach described in this section to determine whether storm water from a site is posing unacceptable risk.

Section 7, Reporting

- Section 7.1 Catch basin sampling will usually not be conducted in conjunction with a precipitation event. Although that information is important to the sampling of the storm water, it does not appear critical to catch basin sampling.
- Section 7.2. This section appears to assume that storm water sampling detection limits will achieve SLVs. That is not the case, so this section should confirm that a “non-detect” achieved using reasonable commercially available analytical techniques will be acceptable to eliminate a contaminant of interest.